

# Comparisons of Job Characteristics

**Focus Occupation:** [Welders, Cutters, Solderers, and Brazers \(51-4121\)](#)

**Associated Occupation:** [Structural Iron and Steel Workers \(47-2221\)](#)

[Compare Knowledge](#)

[Compare Skills](#)

[Compare Abilities](#)

[Compare Detailed Work Activities](#)

[Compare Tools and Technologies](#)

<<	Focus occupation element is much lower
<	Focus occupation element is lower
0	Focus occupation element is at a similar level
>	Focus occupation element is at a higher level
>>	Focus occupation element is at a much higher level

## Knowledge

Similarity of Focus Occupation to Associated Occupation: 78

**Focus Occupation:** Welders, Cutters, Solderers, and Brazers (51-4121)

**Associated Occupation:** Structural Iron and Steel Workers (47-2221)

Associated Occupation's Key Knowledge Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Building and Construction	4.0	18.3	4.9	<<	Extensive education and/or training may be required
Mechanical	6.8	13.5	9.5	<<	Extensive education and/or training may be required
Production and Processing	6.0	13.2	6.4	<<	Extensive education and/or training may be required
Mathematics	9.2	12.5	6.4	<<	Extensive education and/or training may be required
Engineering and Technology	5.7	11.5	6.4	<<	Extensive education and/or training may be required
Design	5.2	11.2	6.0	<<	Extensive education and/or training may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.

## Skills

Similarity of Focus Occupation to Associated Occupation: 80

**Focus Occupation:** Welders, Cutters, Solderers, and Brazers (51-4121)

**Associated Occupation:** Structural Iron and Steel Workers (47-2221)

Associated Occupation's Key Skills Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Coordination	9.1	11.2	6.5	<<	Extensive development of skills in this area may be required
Operation and Control	5.4	10.8	5.9	<<	Extensive development of skills in this area may be required
Operation Monitoring	6.6	10.2	7.8	<<	Extensive development of skills in this area may be required
Repairing	3.4	6.2	5.9	0	Current skill level may be sufficient

Equipment Selection	3.3	6.1	5.4	<	A higher skill level may be required
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The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.

Abilities		Similarity of Focus Occupation to Associated Occupation: 57			
Focus Occupation: Welders, Cutters, Solderers, and Brazers (51-4121) Associated Occupation: Structural Iron and Steel Workers (47-2221)					
Associated Occupation's Key Abilities Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Static Strength	5.0	16.6	6.9	<<	Extensive improvement in abilities may be required
Multilimb Coordination	6.0	15.3	7.4	<<	Extensive improvement in abilities may be required
Arm-Hand Steadiness	6.8	14.3	11.4	<	Some improvement in abilities may be required
Manual Dexterity	6.5	13.5	10.3	<<	Extensive improvement in abilities may be required
Depth Perception	5.3	13.3	7.1	<<	Extensive improvement in abilities may be required
Gross Body Equilibrium	3.2	13.0	3.2	<<	Extensive improvement in abilities may be required
Trunk Strength	5.7	12.6	7.4	<<	Extensive improvement in abilities may be required
Auditory Attention	5.9	11.6	6.3	<<	Extensive improvement in abilities may be required
Dynamic Strength	3.5	11.5	4.2	<<	Extensive improvement in abilities may be required
Glare Sensitivity	2.6	8.5	2.2	<<	Extensive improvement in abilities may be required
Peripheral Vision	2.2	6.8	2.0	<<	Extensive improvement in abilities may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.

Activities that Both Occupations Have in Common		Similarity of Focus Occupation to Associated Occupation: 86
Focus Occupation: Welders, Cutters, Solderers, and Brazers (51-4121) Associated Occupation: Structural Iron and Steel Workers (47-2221)		
Work Activities	Exclusivity of Activity	
Burn (cut), trim, or scarf metal objects	80	
Erect scaffold	56	
Fabricate, assemble, or disassemble manufactured products by hand	11	
File, sand, grind, or polish metal or plastic objects	82	
Identify base metals for welding	68	

Identify properties of metals for repair or fabrication activities	71
Maintain welding machines or equipment	70
Move or fit heavy objects	8
Operate hoist, winch, or hydraulic boom	34
Perform safety inspections in industrial, manufacturing or repair setting	32
Read blueprints	10
Read specifications	23
Recognize characteristics of alloys	71
Recognize characteristics of metals	62
Signal directions or warnings to coworkers	42
Use acetylene welding/cutting torch	54
Use arc welding equipment	62
Use combination welding procedures	68
Use hand or power tools	2
Use precision measuring tools or equipment	17
Weld together metal parts, components, or structures	54

Not all positions in these occupations will necessarily perform all of the listed activities. The exclusivity rating is an indication of how unique the activity is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations engage in that activity.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.

## Tools and Technologies that Both Occupations Have in Common

Similarity of Focus  
Occupation to Associated  
Occupation: 82

**Focus Occupation: Welders, Cutters, Solderers, and Brazers (51-4121)**  
**Associated Occupation: Structural Iron and Steel Workers (47-2221)**

Tools and Technologies	Exclusivity
Aerial lifts	13
Business function specific software	1
Computers	1
Cutting and crimping and punching tools	3
Cutting tools	18
Face and head protection	7
Forming tools	2
Holding and clamping tools	3
Industry specific software	1
Ladders and scaffolding	6
Lifting equipment and accessories	3
Marking tools	11
Measuring and layout tools	3
Personal communication devices	2
Pneumatic tools	8
Power tools	2
Prying and bending tools	10
Respiratory protection	6
Rough and finishing tools	5
Safety apparel	4

Soldering and brazing and welding machinery and supplies	6
Vision protection and accessories	3
Wrenches and drivers	2

Not all positions in these occupations will necessarily use all of the listed tools and technologies. The exclusivity rating is an indication of how unique the tool or technology is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations use that tool or technology.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.